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No. 8.

ENUMERATION AND DESCRIPTION OF THE SEPTORIAS OF NORTH AMERICA.

BY GEORGE MARTIN, M. D.

(Continued from page 82.)

178. SEPTORIA PHLOGIS, Sacc. & Speg. (?)

Spots amphigenous, olivaceous below, dirty white above, 1—3 millim. diam. or, by confluence, larger, with a purplish shaded border (on the green leaves); perithecia rather numerous; epiphyllous, lenticular, 100—120 μ in diameter, dull black; sporules 18—30 x $\frac{3}{4}$ —1 μ , faintly nucleolate, nearly straight, hyaline. These characters are taken from specimens on *Phlox divaricata* collected by E. W. Holway in Iowa and probably the same as found in Wisconsin by Trelease on the same host (Parasitic Fungi Wis., p. 19), but the sporules are shorter and narrower than stated by Sacc. Syll. III, p. 533, where the sporules are given as 40—60 x 1—3 μ and the perithecia 150—200 μ .

179. SEPTORIA EUPATORII, Rob. & Desm. On lower leaves of living *Eupatorium serotinum*. Louisiana, March, 1887. Langlois, No. 1097.

Spots numerous, small, round, yellowish at first but soon becoming white, border narrow, raised and generally surrounded with a purplish stain; sporules rather thicker at one end, nearly straight, yellowish-hyaline, nucleolate, 20—25 x $1\frac{1}{2}$ μ .

180. SEPTORIA COCOINA, E. & E. On leaves of *Cocos plumosa*, in a hot house, Columbia, Mo., May, 1887. B. T. Galloway, No. 250.

Spots amphigenous, large (1—2 cm.), white, with a black border; perithecia epiphyllous, scattered, lenticular, 150—200 μ in diameter; sporules clavate-vermicular, continuous, hyaline, mostly subundulate-curved, variable in length from 8—16 μ and $1\frac{1}{2}$ —2 μ thick.

181. SEPTORIA CHIMAPHILÆ, E. & E. On leaves of *Chimaphila maculata*. Faulkland, Del., June, 1887. A. Commons, No. 515.

Spots amphigenous, white, with a purple border; perithecia mostly epiphyllous, scattered, sublenticular; sporules acicular, about twenty μ long by less than one μ thick. Whether this is the *Depazea Pyrolæ*, Fr., mentioned by Peck in 23d Rep., p. 64, as found on *Chimaphila umbellata*, we cannot say.

182. SEPTORIA EXPANSA, Niessl. Hedw., 1883, p. 15. On *Geranium Carolinianum*. Manhattan, Kansas, June, 1887 (Kellerman.)

"Hypophyllous, spots indeterminate, much expanded, gilvous or subochraceous; perithecia scattered, rather large, semi-immersed, opening at the apex; cirri reddish; sporules filiform, slightly curved, $50-60 \times 1 \mu$, multinucleate and indistinctly septate." The Kansas specimens, which are evidently the same as those distributed by Dr. Winter in his Exsiccati (No. 2897), agree with the above description, except that the sporules are often $75-100 \mu$ long and mostly as much as $1\frac{1}{2} \mu$ wide. They generally have about three septa.

183. SEPTORIA ARGOPHYLLA, E. & K. n. s. On living leaves of *Psoralea argophylla*. Manhattan, Kans., June, 1887 (W. T. Swingle.)

Spots amphigenous, minute (one millim.), nearly black at first, becoming dirty white in the center, with a dark, subindefinite border; perithecia mostly epiphyllous, scattered, rather large, immersed; sporules cylindrical, curved, obtuse, hyaline, faintly 2-3-septate, $40-55 \times 2\frac{1}{2}-3 \mu$. Approaches *Phleospora*.

184. SEPTORIA SILPHII, E. & E. On leaves of *Silphium perfoliatum*. Ames, Iowa, September, 1886. Prof. B. D. Halsted.

Spots amphigenous, 2-5 millim. in diameter, dirty brown above, paler below, subrotund or limited by the veinlets of the leaf, border definite, slightly raised; perithecia sublenticular, mostly epiphyllous; sporules filiform, $35-50 \times 1 \mu$, nearly straight and only faintly nucleolate. The spots become dirty white in the center. Closely allied to *S. Cacaliae*, E. & K., but spots rather darker and sporules mostly shorter.

185. SEPTORIA LITTOREA, Sacc. Syll. III, p. 512. On living and partly dead leaves of *Apocynum cannabinum*. Manhattan, Ks., June, 1887.

Spots amphigenous, rusty color, with a small, white center, definite, suborbicular, 1-3 millim.; perithecia few (1-3) on a spot, epiphyllous, sublenticular; sporules subcylindrical, curved, nucleolate, nearly hyaline, obtuse at each end, mostly $50-70 \times 2 \mu$, but some of them even $90-100 \mu$ long. This agrees so well with the description given by Saccardo that there can be little doubt of its being his species.

186. SEPTORIA SII, Rob. & Desm. Sacc. Syll. III, p. 530. On leaves of *Cicuta maculata*. Manhattan, Ks., July, 1884. (Kellerman.)

Spots amphigenous, small (one millim.), round or nearly so, yellowish at first, then white, with a pale yellow border; perithecia few (1-3) on a spot, epiphyllous, black, punctiform; sporules filiform, slightly curved, ends rather acute, yellowish-hyaline, nucleolate, $35-40 \times 1-1\frac{1}{2} \mu$.

187. SEPTORIA AEGOPODII, Desm. Crypt. Fr., 616. On withered leaves of *Osmorrhiza longistylis*. Racine, Wis., June, 1887. Dr. J. J. Davis.

Spots amphigenous, dirty white above, with an imperfectly-defined dark border, greenish below, small (2-3 millim.); perithecia nearly obsolete, pale, thickly scattered over the spots and visible on both sides, lenticular, $150-200 \mu$ in diameter; sporules cylindrical, granular and

nucleate, becoming 1-septate, $45-75 \times 2\frac{1}{2}-3 \mu$. This is really a *Phleospora*, on account of the very imperfect perithecia (if they can properly be called perithecia). Really "acervuli" would be more nearly correct, as there are no proper perithecia either in the Wisconsin specimens or in any of the specimens of *S. Aegopodii* in the various European Exsiccati examined.

188. *SEPTORIA HELENII*, E. & E. On leaves of *Helenium autumnale*. Racine, Wis., June, 1887. Dr. J. J. Davis.

Spots amphigenous, 2-4 millim. in diameter, dark, becoming dirty white, with a dark, slightly raised border; perithecia about 100μ in diameter, of pale, parenchymatous structure, epiphyllous, the minute, black, perforated, papilliform ostiola showing as black specks thickly scattered on the spots; sporules vermiform, $20-35 \times 2 \mu$, 1-3-septate. *S. Helianthi*, E. & K., has larger, ferruginous spots without any raised border and much longer sporules acuminate attenuated at each end and 3-5-septate.

In the 23d Rep. N. Y. State Mus., pp. 54 and 55, the following *Septorias* are mentioned: *S. plantagincola*, B. & C.; *S. Liriodendri*, B. & C.; *S. Vitis*, B. & C.; *S. destruens*, West.; *S. sanguinea*, Desm. Of these, the first is probably the same as *S. inconspicua*, B. & C.; the others may be considered doubtful.

Septoria viticola, B. & C., in Rav. F. Am., No. 26, should be *Sacidium viticolum*. See Grev. VI, p. 136.

NOTE.—In the preceding list, Nos. 159-188 have been added since Dr. Martin's death.

Prof. Saccardo having transferred a number of species heretofore described as *Septorias* to the genera *Phleospora*, *Rhabdospora* and *Phlyctena*, they will be found under these heads.

PHLEOSPORA, Wall. Sylloge III, p. 577.

Perithecia innate, imperfect; sporules hyaline, elongated-fusoid, thick, 2-pluriseptate—growing on leaves. A name illly chosen to distinguish them from the *Septorias*, as the sporules are exuded or flow out in both.

1. PHLEOSPORA ACERIS (Lib.) Sacc. Sylloge III, p. 577; *Ascochyta Aceris*, Lib.; *Septoria acericola*, Desm.; *Septoria Aceris*, B. & Br.; Ellis, N. A. F., 346.

Spots tawny or pale yellow, subangular, limited by the veinlets, often coalescing, 3-5 millim. in diameter; perithecia brown, flattened, innate, hypophyllous, $150-200 \mu$ in diameter; sporules hyaline, subfusiform, ends obtuse, 3-septate, not constricted, $20-30 \times 3-5 \mu$. On leaves of *Acer* and *Negundo aceroides*. Massachusetts and California.

2. PHLEOSPORA CELTIDIS, E. & M.

Spots gray-brown, gray in the center, irregular, coalescing; perithecia dark brown, subglobose, prominent, few in a spot, amphigenous, $200-275 \mu$ in diameter; sporules subhyaline, subfusiform, ends subacute, curved, 6-8-septate, $70-80 \times 8-10 \mu$. On leaves of *Celtis occidentalis*. Missouri.

- ✗ 3. PHLEOSPORA MORI (Lev.), Sacc. Sylloge III, p. 577; *Septoria Mori*, Lev.; Rav. F. A., 506.

Spots light brown, subcircular, 1—2 millim. in diameter, border red-brown; perithecia (?) brown, innate, slightly prominent, hypophyllous—"mostly epiphyllous, Sacc."—50—60 μ in diameter; sporules hyaline, subfusiform, nearly straight, 3—4-septate, 40—50 x 4 μ . On leaves of *Morus rubra*. Pennsylvania to South Carolina. Perithecia very variable and sometimes entirely wanting.

4. PHLEOSPORA MORICOLA (Pass.), Sacc. Sylloge III, p. 578; *Septoria Mori*, Lev.

Spots indeterminate or brownish-gray, with a narrow, red-brown border; perithecia (?) small, scattered or loosely gregarious, innate slightly prominent, hypophyllous; sporules hyaline, subfusiform, multi-septate, on Pennsylvania specimen 5—7-septate, 60—70 x 4—5 μ . On leaves of *Morus alba*. Pennsylvania. Only distinguished from *P. Mori* by the multiseptate sporules.

- ✗ 5. PHLEOSPORA ULMI (Fr.), Wallr. Sylloge III, p. 578; *Septoria Ulmi*, Fr.

Spots light brown; perithecia (?) thin, scattered, innate, hypophyllous, brown, 120—140 μ in diameter; sporules hyaline, oblong-ovate, ends obtuse, 3—4-septate, 40—50 x 6 μ , exuded in white threads. On leaves of *Ulmus*. New York, Pennsylvania and Kentucky and westward to Missouri and Kansas.

- ✗ 6. PHLEOSPORA ANEMONES, E. & K. On leaves of *Anemone*. Kansas, July, 1886. (Kellerman.)

Leaf slightly yellowish and sprinkled with reddish-purple specks, indicating the position of the perithecia, which are distinctly prominent below, with a large opening through which issue in pale cirri the oblong-cylindrical, hyaline, nucleate, finally 3-septate sporules, which are 25—40 μ long and about three μ thick.

7. PHLEOSPORA ASIMINÆ, Ell. & Morgan. On leaves of *Asimina triloba*. Preston, Ohio. A. P. Morgan.

Leaves blotched above with dark brown; perithecia very rudimentary, minute, crowded in the brown spots in areas limited by the veinlets, opening below and discharging the oblong-fusoid, granular, nucleate and finally about 3-septate, slightly constricted, 20—40 x 12—15 μ sporules in the form of a white pruinosity on the surface of the leaf; basidia stout, 10—20 x 6—10 μ . The habit and general appearance is that of a *Cylindrosporium*.

- ✗ 8. PHLEOSPORA CARICIS, E. & E. On partly dead leaves of *Carex angustata*. Falkland, Del., October, 1886. A. Commons, No. 466.

Perithecia on dull white, orbicular or, by confluence, subelongated spots 1—2 millim. in diameter, 3—10 in a spot, minute, black, slightly prominent; sporules oblong, 40—60 x 12—16 μ , becoming 4—6-septate. The spots appear on the green, living leaf and are surrounded by reddish rusty border and the leaf soon becomes dead and dry.

RHABDOSPORA, Mont. Sylloge III, p. 578.

Perithecia innate-erumpent, globose or depressed, brown or black, growing mostly without spots on branches or stems and not on leaves.

1. RHABDOSPORA ALLANTOIDEA (B. & C.), Sacc. Sylloge III, p. 586; *Septoria allantoidea*, B. & C., N. A. Fungi, No. 442.

"Spots pallid, elongated; sporules slightly sausage-shaped (oblong), 15—12 μ long." On stems of *Medicago sativa*. Pennsylvania.

2. RHABDOSPORA BREVIUSCULA (B. & C.), Sacc. Sylloge III, p. 580; *Septoria breviuscula*, B. & C., N. A. Fungi, No. 450 bis.

"Epidermis elevated by the perithecia; sporules sausage-shaped, twenty-five μ long." On branches of *Robinia*. South Carolina.

3. RHABDOSPORA CONTINUA (B. & C.), Sacc. Sylloge III, p. 593; *Septoria continua*, B. & C., N. of N. A. Fungi, p. 11, No. 444.

"Perithecia scattered, hidden by the epidermis, a little prominent; sporules filiform, nearly straight, basidia half the length of the sporules." On the scapes of *Plantago major*. Pennsylvania.

4. RHABDOSPORA DECIPIENS (B. & C.), Sacc. Sylloge III, p. 582; *Septoria decipiens*, B. & C., N. A. Fungi, No. 445.

"Perithecia at last uncovered; sporules slender, long, flexuous." On whitened twigs of *Lonicera*. South Carolina.

5. RHABDOSPORA DIANÆ (B. & C.), Sacc. Sylloge III, p. 586; *Septoria Dianæ*, B. & C., N. A. Fungi, No. 445 bis.

"Perithecia flattened, large; sporules curved, long, nucleolate, acute." On branches of unknown tree. New England."

6. RHABDOSPORA FALX (B. & C.), Sacc. Sylloge III, p. 582; *Septoria Falx*, B. et C. Notice, N. A. Fungi, p. 76, No. 446 bis.

"Spots dull white or none; perithecia brown, black around the ostiola, globose, large, erumpent, densely gregarious, numerous; sporules hyaline, filiform, continuous, not guttulate, 18—20 x 2—2 $\frac{1}{2}$ μ ; basidia hyaline, straight, 12—16 x 2—2 $\frac{1}{2}$ μ ." On branches of *Vitis*. South Carolina.

7. RHABDOSPORA HEDEOMINA (Pk.), Sacc. Sylloge III, p. 590; *Septoria hedeomina*, Peck, 33d Rep. N. Y. S. M., p. 25.

"Spots none; perithecia black, flattened, scattered, inconspicuous, 120—140 μ in diameter; sporules hyaline, filiform, strongly curved, 30—40 μ long." On dead calyx stems of *Hedemora pulegioides*. New York.

8. RHABDOSPORA HELIANTHICOLA (C. & H.), Sacc. Sylloge III, p. 592; *Septoria helianthicola*, C. & Hark., Grev. IX, p. 6.

"Perithecia black, semi-immersed, forming black spots; sporules linear, straight or flexuous, colorless, 30—35 x 1 μ ." On stems of *Helianthus*. California.

9. RHABDOSPORA INTERRUPTA (B. et C.), Sacc. Sylloge III, p. 583; *Septoria interrupta*, B. et C., N. A. Fungi, No. 446.

"Perithecia scattered; sporules linear, flexuous, multinucleate, fifty μ long." On branches of *Viburnum Opulus*. Pennsylvania.

10. RHABDOSPORA JUGLANDIS (Schw.), Sacc. *Sylloge III*, p. 584; *Septoria Juglandis*, B. et C., N. A. *Fungi*, p. 76.

"Perithecia black, innate, barely erumpent, gregarious; sporules rod-shaped, shortly curved above." On branches of *Juglans nigra*. Pennsylvania.

11. RHABDOSPORA KELLERMANI, E. & M.

Spots obsolete; perithecia black, innate, lenticular, scattered, 126—150 μ in diameter; sporules filiform, hyaline, nearly straight, $45 \times 1\frac{1}{2} \mu$. On stems and leaves of *Scrophularia nodosa* and *Mimulus ringens*. Ohio.

12. RHABDOSPORA LONICERÆ (C. et Ell.), Sacc. *Sylloge III*, p. 582; *Cryptosporium Lonicera*, C. & E., *Grev. VI*, p. 83.

"Perithecia black, subgregarious, covered by the elongated, fissured epidermis; sporules hyaline, cylindrical, curved, obtuse, twenty-five μ long." On branches of *Lonicera*. New Jersey.

13. RHABDOSPORA MACULANS (B. et C.), Sacc. *Sylloge III*, p. 584; *Septoria maculans*, B. et C., N. A. *Fungi*, No. 448 bis.

"Spots pallid, minute, definite, border obscure; perithecia punctiform, gregarious; sporules slender, flexuous, twenty-five μ long." On slender twigs of *Alnus*. South Carolina.

14. RHABDOSPORA PINI (B. et C.), Sacc. *Sylloge III*, p. 585; *Cryptosporium Pini*, B. et C., N. A. *Fungi*, No. 396.

"Perithecia papilliform, black, covered by the cuticle, then erumpent; sporules slender, curved, 1-septate, ends attenuated, seventy μ long; basidia one third as long as the sporules." On smooth bark of *Pinus*. New England.

15. RHABDOSPORA RIBICOLA (B. et C.), Sacc. *Sylloge III*, p. 579; *Septoria ribicola*, B. et C., N. A. *Fungi*, No. 444 bis.

"Perithecia black, scattered; sporules linear, curved, twenty-five μ long." On bleached branches of *Ribes rotundifolia*. Wisconsin.

16. RHABDOSPORA RUBI, Ell. n. sp.

Perithecia black, subglobose, innate, erumpent, scattered, 100—195 μ in diameter; sporules hyaline, linear, curved, 3—4-septate, $40—45 \times 2 \mu$. On stems of *Rubus strigosus*. Illinois.

17. RHABDOSPORA SOLIDAGINIS (C. et E.), Sacc. *Sylloge III*, p. 591; *Cryptosporium Solidaginis*, C. et E., *Grev. VI*, p. 83.

"Perithecia brown, flattened, small, gregarious, innate, erumpent; sporules hyaline, fusiform, bowed or gently curved, acute, $30—35 \mu$ long." On stems of *Solidago*. New Jersey.

18. RHABDOSPORA TRIFOLII (Ellis), Sacc. *Sylloge III*, p. 586; *Septoria Trifolii*, Ellis, *Bul. Torr. Bot. Club IX*, p. 74; Ellis, *N. A. F.*, 746.

Perithecia covered but soon exposed by the peeling off of the epidermis, gregarious, forming little elongated patches or scattered evenly over the matrix; sporules fusiform, curved, granular, $20 \times 4—5 \mu$. On dead stems of *Trifolium pratense*.

19. RHABDOSPORA VERRUCIFORMIS (B. et C.), Sacc. *Sylloge III*, p. 583; *Septoria verruciformis*, B. et C., N. A. F., No. 447.

"Perithecia large, wrinkled; sporules slender, nearly straight." On branches of *Cephalanthus*. Alabama.

20. RHABDOSPORA SUBGRISEA, Pk. 38th Rep. N. Y. State Mus., p. 98.

"Perithecia numerous, punctiform, depressed, black, covered by the epidermis, generally forming long, indefinite, grayish-brown spots; sporules filiform, straight or curved, 8—15 μ long. Dead stems and galls of various species of *Solidago*. Albany, N. Y., April and May."

PHLYCTÆNA, Mont. & Desm.

Perithecia subcutaneous, sometimes erumpent, globose-oblong, opening in a subhysterioid manner, imperfect; sporules fusoid-elongate or filiform, continuous, hyaline, borne on various basidia.

1. PHLYCTÆNA VAGABUNDA, Desm. *Sacc. Syll. III*, p. 594.

"Spots none or very minute, brown, fibrillose; pseudo-perithecia numerous, scattered; sporules hyaline, curved, elongated, linear, subobtuse, 7—9-guttulate, 18—25 μ long. On herbaceous stems of *Phytolacca*, etc."

2. PHLYCTÆNA SEPTORIOIDES, Sacc. *Septoria phlyctenoides*, B. & C., Grev. III, p. 10.

"Caulicolous; on white, elongated spots; perithecia hysteriiform; sporules filiform, curved above, hyaline, about twenty-five μ long. On stems of *Phytolacca*. Pennsylvania (Michener.)"

3. PHLYCTÆNA ORTHOSPORA, B. & C. *Grev. II*, p. 101.

"Pustules oblong with a dark margin, covered by the epidermis; sporules oblong, six μ long. On stems of *Phytolacca*." More properly a *Phoma*.

4. PHLYCTÆNA COMPLANATA (B. & C.) *Septoria complanata*, B. & C., Grev. III, p. 10.

"Caulicolous; perithecia rather large, somewhat flattened, hysteriform; sporules very slender, nearly straight, very long. On stems of *Polygonum Virginicum*. Pennsylvania (Michener.)"

5. PHLYCTÆNA GOSSYPII, Sacc. *Syll. III*, p. 595.

"Perithecia globose, depressed, one half millim. in diameter, partially covered, texture parenchymatic, subfuscous; nucleus gray; sporules filiform, uncinate above, 25—30 x 1—1½ μ , hyaline, borne on rather short, bacillary basidia. On stems of cotton plant. South Carolina (Ravenel)."

6. PHLYCTÆNA ARCUATA, Berk. *Grev. II*, p. 100.

"Pustules minute, subconvex, covered by the epidermis; sporules filiform, hooked at the apex, twenty-five μ long. On dead stem of *Solidago* and on *Rumex*."

7. PHLYCTÆNA SIMULANS (B. & C.) *Septoria simulans*, B. & C., Grev. III, p. 10.

"Caulicolous; on an elongated, pale spot; perithecia hysteriiform; sporules linear, curved, 25 μ long, elongated, curved at the apex, 20—25 μ long. On stems of *Nabalus*. New England."

8. PHLYCTÆNA SMILACIS, Cke. *Texas Fungi*, No. 141.

"Covered, minute, brown, densely gregarious, slightly elevated; sporules filiform, elongated, curved at the apex, 20—25 μ long." On stems of *Smilax*. Texas.

Index to the Species of *Septoria*.

<i>Septoria acerella</i>	*160	<i>Septoria Gerardii</i>	54
<i>Septoria acerina</i>	1	<i>Septoria glauca</i>	172
<i>Septoria acicola</i>	2	<i>Septoria gossypina</i>	55
<i>Septoria aciculosa</i>	3	<i>Septoria graminum</i>	56
<i>Septoria Aegopodii</i>	187	<i>Septoria Gratiolæ</i>	57
<i>Septoria albaniensis</i>	4	<i>Septoria Helenii</i>	188
<i>Septoria alnicala</i>	166	<i>Septoria Helianthi</i>	58
<i>Septoria albo-nigra</i>	5	<i>Septoria Hosackiae</i>	59
<i>Septoria albo-punctata</i>	6	<i>Septoria Hydrocotyles</i>	60
<i>Septoria Alismatis</i>	7	<i>Septoria ilicifolia</i>	61
<i>Septoria ampelina</i>	8	<i>Septoria inconspicua</i>	62
<i>Septoria angustata</i>	9	<i>Septoria increscens</i>	63
<i>Septoria Aquilegiae</i>	10	<i>Septoria infuscata</i>	64
<i>Septoria argophylla</i>	183	<i>Septoria irregularis</i>	65
<i>Septoria Astragali</i>	11	<i>Septoria kalmiecola</i>	66
<i>Septoria astragalicola</i>	12	<i>Septoria Kellermaniana</i>	67
<i>Septoria atropurpurea</i>	13	<i>Septoria Lactucae</i>	68
<i>Septoria bacilligera</i>	14	<i>Septoria lactucicola</i>	69
<i>Septoria Bætisiae</i>	15	<i>Septoria Lamii</i>	70
<i>Septoria Besseyi</i>	16	<i>Septoria Lapparum</i>	177
<i>Septoria Betulicola</i>	17	<i>Septoria lepidiicola</i>	71
<i>Septoria Bidentis</i>	18	<i>Septoria Leptostachya</i>	72
<i>Septoria Brunellæ</i>	19	<i>Septoria Liquidambaris</i>	73
<i>Septoria Cacaliae</i>	20	<i>Septoria littorea</i>	185
<i>Septoria Calystegiae</i>	171	<i>Septoria Lobeliae</i>	74
<i>Septoria Campanulae</i>	21	<i>Septoria Lophanthi</i>	75
<i>Septoria Cannabis</i>	22	<i>Septoria Ludwigiae</i>	76
<i>Septoria carnicinella</i>	161	<i>Septoria Lupini</i>	77
<i>Septoria Caryæ</i>	164	<i>Septoria lythrina</i>	79
<i>Septoria Celti-galleæ</i>	23	<i>Septoria maculosa</i>	54
<i>Septoria Cephalanthi</i>	24	<i>Septoria Magnoliæ</i>	80
<i>Septoria Cerastii</i>	25	<i>Septoria malvicola</i>	81
<i>Septoria cerasina</i>	26	<i>Septoria melandrii</i>	159
<i>Septoria ceuthosporoides</i>	27	<i>Septoria melanophthalmi</i>	82
<i>Septoria Chimaphilæ</i>	181	<i>Septoria Mentzeliae</i>	83
<i>Septoria Chionanthi</i>	28	<i>Septoria microsperma</i>	84
<i>Septoria cirrhosa</i>	29	<i>Septoria Mimuli</i>	85
<i>Septoria Cirsii</i>	30	<i>Septoria mirabilis</i>	86
<i>Septoria cocinea</i>	180	<i>Septoria musiva</i>	170
<i>Septoria consimilis</i>	31	<i>Septoria Nabali</i>	87
<i>Septoria consocia</i>	32	<i>Septoria narvissiana</i>	88
<i>Septoria conspicua</i>	78	<i>Septoria niphostoma</i>	89
<i>Septoria Coptidis</i>	33	<i>Septoria noctiflora</i>	90
<i>Septoria cornicola</i>	34	<i>Septoria Noli-tangere</i>	91
<i>Septoria corylinæ</i>	35	<i>Septoria ochroleuca</i>	92
<i>Septoria Cryptotaeniae</i>	36	<i>Septoria Oenotheræ</i>	93
<i>Septoria Cucurbitacearum</i>	37	<i>Septoria oleandrina</i>	94
<i>Septoria Curtisiana</i>	38	<i>Septoria Ostryæ</i>	95
<i>Septoria Dalibardæ</i>	39	<i>Septoria pachyspora</i>	96
<i>Septoria Dentariae</i>	40	<i>Septoria pastinacina</i>	97
<i>Septoria Diervillei</i>	41	<i>Septoria paupera</i>	98
<i>Septoria difformis</i>	42	<i>Septoria Peckii</i>	99
<i>Septoria Dolichi</i>	43	<i>Septoria Pentstemonis</i>	100
<i>Septoria dryina</i>	44	<i>Septoria Phlogis</i>	178
<i>Septoria imaculata</i>	45	<i>Septoria Photiniae</i>	101
<i>Septoria Epilobii</i>	176	<i>Septoria Piceæ</i>	102
<i>Septoria Equiseti</i>	46	<i>Septoria plantaginea</i>	165
<i>Septoria Erigerontis</i>	47	<i>Septoria platanifolia</i>	103
<i>Septoria Eupatorii</i>	179	<i>Septoria podophyllina</i>	104
<i>Septoria examinans</i>	48	<i>Septoria polemoniicola</i>	162
<i>Septoria expansa</i>	182	<i>Septoria Polygalæ</i>	105
<i>Septoria flagellaris</i>	49	<i>Septoria Polygonorum</i>	106
<i>Septoria Fraxini</i>	50	<i>Septoria Pruni</i>	107
<i>Septoria fructigena</i>	51	<i>Septoria psilostega</i>	108
<i>Septoria fumosa</i>	174	<i>Septoria pulchella</i>	109
<i>Septoria Gallopsididis</i>	188	<i>Septoria punicei</i>	173
<i>Septoria Gei</i>	175	<i>Septoria purpurascens</i>	110
<i>Septoria Galiorum</i>	52	<i>Septoria pyricola</i>	167
<i>Septoria gaurina</i>	53	<i>Septoria Pyrolæ</i>	111

* The figures refer to the number of the description.

Septoria Querceti	112	Septoria spiculosa	135
Septoria Ravenelii	113	Septoria sphærelloides	136
Septoria recta	114	Septoria Stenosiphonis	137
Septoria Rhododendri	115	Septoria stigma	138
Septoria rhoina	116	Septoria submaculata	139
Septoria Ribis	117	Septoria Symphoricarpi	149
Septoria Rubi	118	Septoria Symploci	141
Septoria Rubi var. pallida	119	Septoria tenella	142
Septoria Sallieæ	120	Septoria tenuissima	143
aepatoria salicifolia	121	Septoria Toxicodendri	144
Septoria salicina	122	Septoria Trillii	145
Septoria sambucina	123	Septoria Tritici	38
Septoria Scleranthi	124	Septoria unicolor	146
Septoria Scrophulariæ	125	Septoria Urticæ	163
Septoria serpentaria	126	Septoria Verbena	147
Septoria Sicyi	169	Septoria verbascicola	148
Septoria Sii	186	Septoria vestita	149
Septoria sllenicola	127	Septoria Violæ	150
Septoria Silphii	184	Septoria viridi-tingens	151
Septoria Sisymbrii	129	Septoria Virgaureæ	152
Septoria Smilacini	130	Septoria Waldsteiniae	153
Septoria Solidaginis	131	Septoria Wilsoni	154
Septoria sonchifolia	132	Septoria Wyethia	155
Septoria specularia	133	Septoria Xanthii	156
Septoria Speculariæ	134	Septoria xanthifolia	157

Index to Species of Phleospora.

Phleospora Aceris	1	Phleospora Celtidis	2
Phleospora Anemones	6	Phleospora Mori	3
Phleospora Asiminæ	7	Phleospora moriicola	4
Phleospora Caricis	8	Phleospora Ulmi	5

Index to Species of Rhabdospora.

Rhabdospora allantoidea	1	Rhabdospora Kellermani	11
Rhabdospora breviuscula	2	Rhabdospora Lonicerae	12
Rhabdospora continua	3	Rhabdospora maculans	13
Rhabdospora decipiens	4	Rhabdospora Pini	14
Rhabdospora Diana	5	Rhabdospora ribicola	15
Rhabdospora Falx	6	Rhabdospora Rubi	16
Rhabdospora hedeomina	7	Rhabdospora Solidaginis	17
Rhabdospora helianthicola	8	Rhabdospora subgrisea	20
Rhabdospora interrupta	9	Rhabdospora Trifoli	18
Rhabdospora Juglandis	10	Rhabdospora verruciformis	19

Index to Species of Phlyctæna.

Phlyctæna vagabunda	1	Phlyctæna Gossypii	5
Phlyctæna septorioides	2	Phlyctæna arcuata	6
Phlyctæna orthospora	3	Phlyctæna simulans	7
Phlyctæna complanata	4	Phlyctæna Smilacis	8

Alphabetical List of Host Plants.

[Phleospora, Rhabdospora and Phlyctæna are indicated by P., R. and Ph. attached to the numbers.]

Acer Pennsylvanicum	1	Betula lenta	84
Acer saccharinum	120	Bidens bipinnata	18
Allium tricornutum	151	Brunella vulgaris	19
Alisma Plantago	7	Cacalia tuberosa	20
Alnus	13, R, 166	Calystegia sepium	171, 49
Ambrosia trifida	14	Campanula Americana	21
Andromeda ferruginea	109	Cannabis sativa	22
Aquilegia vulgaris	10	Carex	161, 8, P
Anemone	6, P	Castanea vesca	92
Asimina	7, P	Celtis occidentalis	2, P, 23
Astragalus	12	Cephalanthus occidentalis	19, R, 24
Aster cordifolia	13	Cerastium viscosum	25
Aster macrophylla	13	Chelone glabra	154
Aster puniceus	173	Chimaphila maculata	181
Bæhmeria cylindrica	143	Chionanthus Virginica	28
Baptisia	15	Cirsium altissimum	30
Betula	17	Cocos plumosa	180

Coptis	33	Phytolacca	1, 2, 3, Ph
Cornus	34	Pilea pumila	162
Corylus rostrata	35	Pinus	14, R
Cryptotenia Canadensis	36	Pinus mitis	2
Cucurbita	149, 37	Platanus occidentalis	103
Cuphea viscosissima	54	Plantago lanceolata	62
Dalibarda repens	39	Plantago major	3, R
Dentaria diphylla	40	Podophyllum peltatum	104
Diervilla trifida	41	Polemonium	162
Dolichos	43	Polygala pauciflora	105
Dolichos melanophthalmus	82	Polygala senega	32
Epilobium coloratum	176	Polygonum Pennsylvanicum	4, Ph, 166
Erigeron	47	Populus	170
Equisetum	46	Potentilla Norvegica	110
Eucalyptus	27	Prunus Americana	107
Fe-tuca tenella	142	Prunus Caroliniana	113
Fragaria	3	Prunus serotina	113, 26
Fraxinus	50, 16	Psoralea argophylla	183
Fraxinus Americana	139	Pyrola secunda	111
Galeopsis tetrahit	168	Pyrus	167
Galium	52	Quercus falcata	44
Galium pilosum	108	Quercus laurifolia	126
Gaura parviflora	53	Quercus tinctoria	112
Geranium Carolinianum	182	Rhododendron	115
Geum Virginianum	175	Rhus Cotinus	116
Gossypium	5, Ph, 55	Rhus Toxicodendron	144, 65
Gratiola quadridentata	57	Ribes	117
Hedeoma pulegioides	7, R	Robinia	15, R
Helianthus	8, R	Rubus	2, R
Helianthus divaricatus	98	Rubus hispida	118
Helianthus doronicoides	58	Rubus strigosus	119
Hosackia strigosa	59	Rumex	6, Ph
Hydrocotyle repanda	60	Salix lucida	122, 4
Hypericum corymbosum	136	Sambucus Canadensis	123
Ilex	61, 48	Scirpus fluviatilis	99
Impatiens	91	Scirpus maritima	88
Iva xanthifolia	157	Scleranthus annuus	124
Juglans nigra	10, R	Scrophularia nodosa	11, R, 125
Kalmia latifolia	66	Silenes noctiflora	90
Lactuca sativa	68, 31	Silenes stellata	127
Lactuca Canadensis	69	Silphium perfoliatum	184
Laportea Canadensis	163	Sisymbrium	129
Lappa	177	Smilax	120
Lathyrus maritimus	11	Solidago	8, Ph
Lathyrus ochroleucus	11	Solidago Canadensis	152
Lathyrus palustris	45	Solidago odora	174
Leonurus Marrubiastrum	70	Solidago puberula	131
Lepidium Virginicum	71	Sonchus asperis	132
Lepacys pinnata	64	Specularia	133
Liquidamber styraciflua	73	Specularia perfoliata	134
Lobelia spicata	74	Spirea salicifolia	121
Lobelia syphilitica	74	Staphylen trifolia	29
Lonicera	12, R, 4, R	Stenosiphon virgatus	137
Lopanthus nepetoides	75	Sicyos	169
Ludwigia palustris	76	Symplocos tinctoria	141, 138
Lupinus densiflorus	77	Symporicarpus	140
Lychnis	159	Symplocarpus foetidus	135
Lysimachia ciliata	78	Trientalis Americana	63
Lythrum alatum	79	Trifolium pratense	18, R
Lythrum Salicaria	79	Trillium recurvatum	145
Magnolia grandiflora	89, 80	Triticum	38
Malva rotundifolia	81	Typha	9
Medicago sativa	1, R	Ulmus	5, P
Mentzelia nuda	83	Vaccinium arboreum	6
Mimulus ringens	11, R, 85	Vaccinium Pennsylvanicum	42
Morus alba	4, P	Verbena angustifolia	147
Morus rubra	3, P	Verbena hastata	147
Mulgedium acuminatus	146	Verbascum Blattaria	148
Nabalus alba	7, Ph, 87	Viburnum Opulus	9, R
Negundo aceroides	160, 1, P	Viola lanceolata	150
Nerium Oleander	94	Vitis vulpina	8
Oenothera biennis	98	Vitis riparia	67
Onoclea sensibilis	86	Vitis	6, R
Ostrya Virginica	95	Waldsteinia fragarioides	153
Panicum sanguinale	56	Wyethia mollis	155
Passiflora	51	Xanthium strumarium	156
Pastinaca sativa	97	Yucca gloriosa	158
Pentstemon Digitalis	100	Zanthoxylum Americanum	96
Phlox divaricata	178	Unknown	5, R, 114, 5
Photinia	101		
Phrymna Leptostachya	72		

OBITUARY.

Dr. Ezra Michener died at his residence in Toughkenamon, Chester Co., Pa., June 25, 1887, in the 93d year of his age. He was born in London Grove township, in Chester Co., Nov. 24, 1794. In 1818 he received his medical diploma and began the practice of medicine in his native village. Some ten years later, he removed to Toughkenamon, where he ever afterwards continued to reside. For sixty years, he was the trusted family physician of many of the residents of his section; but among scientific men, he will be chiefly remembered on account of his mycological work in collecting and giving to science, through the publications of Berkeley & Curtis, many new and rare fungi from his locality.

E.

NEW LITERATURE.

BY W. A. KELLERMAN.

“REVISIO MONOGRAPHICA GENERIS GEASTERIS MICH., E TRIBU GASTEROMYCETUM.” Auctore Doct. G. B. DeToni (Suite et fin.) Revue Mycologique, 1er Juillet, 1887.

“THE GROWTH OF TULOSTOMA MAMMOSUM.” Chas. E. Bessey. American Naturalist, July, 1887.

“FUNGI SELECTI EXSICCATI PRÆCIPUE GALLIÆ ET ALGERIÆ.” Centurie XLIIe. C. Roumeguere.

“LES HYMENOMYCETES D’EUROPE: ANATOMIE GENERALE ET CLASSIFICATION DES CHAMPIGNONS SUPERIEURS.” N. Patouillard. Paris. Librarie Paul Klincksieck, 1887.

This valuable work, which is Vol. I of *Materiaux pour L’Historie des Champignons*, embraces general anatomy, pp. 1-69, classification, pp. 70-166, and four plates, with numerous figures, illustrating the anatomy of the several species.

“SYLLOGE FUNGORUM OMNIUM HUCUSQUE COGNITORUM,” digessit P. A. Saccardo, Padua, May 28, 1887.

The 5th volume of this work is now issued. It is a thick royal octavo volume of 1,144 pages and is devoted to the *Agaricini*, of which 4,639 species are enumerated with the original descriptions. The systematic arrangement is the same as that given by Fries in his *Epicrisis*, except that the subgenera *Amanita*, *Tricholoma*, *Lepiota*, etc., are given generic rank.

The rest of the *Hymenomycetes* will be included in Vol. VI (which will be about half the size of Vol. V) and is expected to be ready early in 1888 and will contain an index of all the species of *Hymenomycetes*, Vol. V having only an index of the genera.

Vol. VII, on which the work is already nearly finished, is expected to appear at the end of the current year and will contain the *Phalloids*, *Nidulariaceæ*, *Lycoperdons*, *Hymenogasters*, *Mucorini*, *Peronosporeæ*, *Saprolegniæ*, *Entomophthoræ*, *Chytridiaceæ*, *Protomycetæ* and *Myxomycetes*.

The VIII and last volume, containing the *Discomycetes*, *Tuberaceæ*, *Elaphomyceteæ*, *Saccharomyceteæ*, *Estilagineæ* and *Uredineæ* is promised early in 1889.

E.

TABLE OF CONTENTS.

	PAGE.
ENUMERATION AND DESCRIPTION OF THE SEPTORIAS OF NORTH AMERICA - - - - -	84
INDEX TO SPECIES OF SEPTORIA - - - - -	92
INDEX TO SPECIES OF PHLEOSPORA - - - - -	93
INDEX TO SPECIES OF RHABDOSPORA - - - - -	93
INDEX TO SPECIES OF PHLYCTÄENA - - - - -	93
INDEX TO SPECIES OF HOST PLANTS - - - - -	93
OBITUARY—DR. EZRA MICHENER - - - - -	95
NEW LITERATURE - - - - -	95

Index to Described Species.

PAGE.		PAGE.	
Ascochyta Aceris, Lib.....	87	Rhabdospora Solidaginis (C. & E.).....	90
Cryptosporium Lonicerae, C. & E.....	90	Rhabdospora subgrisea, Pk.....	91
Cryptosporium Pini, B. & C.....	90	Rhabdospora Trifolii (Ellis).....	90
Phleospora, Wall.....	87	Rhabdospora verruciformis (B. & C.).....	91
Phleospora Aceris (Lib.) Sacc.....	87	Septoria Aegopodii, Desm.....	86
Phleospora Anemones, E. & K.....	87	Septoria acericola, Desm.....	87
Phleospora Asiminæ, Ell. & Morg.....	88	Septoria Aceris, B. & Br.....	87
Phleospora Caricis, E. & E.....	88	Septoria allantoidea, B. & C.....	89
Phleospora Celtidis, E. & M.....	87	Septoria argophylla E. & K.....	86
Phleospora Mori (Lev.) Sacc.....	88	Septoria breviuscula, B. & C.....	89
Phleospora moricola (Pass.) Sacc.....	88	Septoria Chimaphilæ, E. & E.....	85
Phleospora Ulmi (Fr.) Wallr.....	88	Septoria coccina, E. & E.....	85
Phlyctæna, Mont. & Desm.....	91	Septoria complanata, B. & C.....	91
Phlyctæna arcuata, Berk.....	91	Septoria continua, B. & C.....	89
Phlyctæna complanata (B. & C.).....	91	Septoria decipiens, B. & C.....	89
Phlyctæna Gossypii, Sacc.....	91	Septoria Dianaæ, B. & C.....	89
Phlyctæna orthospora, B. & C.....	91	Septoria Eupatoria, Rob. & Desm.....	85
Phlyctæna septorioides, Sacc.....	91	Septoria expansa, Niessl.....	89
Phlyctæna simulans (B. & C.).....	91	Septoria Falx, B. & C.....	89
Phlyctæna Smilacis, Cke.....	91	Septoria hedemina, Pk.....	89
Phlyctæna vagabunda, Desm.....	91	Septoria Helenii, E. & E.....	89
Rhabdospora, Mont.....	89	Septoria helianthicola, C. & Hark.....	86
Phabdospora allantoidea (B. & C.).....	89	Septoria interrupta, B. & C.....	89
Phabdospora breviuscula (B. & C.).....	89	Septoria Juglandis, B. & C.....	90
Rhabdospora continua (B. & C.).....	89	Septoria littorea, Sacc.....	86
Rhabdospora decipiens (B. & C.).....	89	Septoria maculans, B. & C.....	90
Rhabdospora Dianaæ (B. & C.).....	89	Septoria Mori, Lev.....	88
Rhabdospora Falx (B. & C.).....	89	Septoria Phlogis, E. & E.....	85
Rhabdospora hedemina (Pk.).....	89	Septoria phlyctænoidea, B. & C.....	91
Rhabdospora helianthicola (C. & H.).....	89	Septoria ribicola, B. & C.....	90
Rhabdospora interrupta (B. & C.).....	89	Septoria Sii, Rob. & Desm.....	86
Rhabdospora Juglandis (Schw.).....	90	Septoria Silphi, E. & E.....	86
Rhabdospora Kellermani, E. & M.....	90	Septoria simulans, B. & C.....	91
Rhabdospora Lonicerae (C. & Ell.).....	90	Septoria Solidaginis, C. & E.....	90
Rhabdospora maculans (B. & C.).....	90	Septoria Trifolii, Ellis.....	90
Rhabdospora Pini (B. & C.).....	90	Septoria Ulmi, Fr.....	88
Rhabdospora ribicola (B. & C.).....	90	Septoria verruciformis, B. & C.....	91
Rhabdospora Rubi, Ell.....	90		